

2020 Kern County Potato Variety Trial

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UCCE Kern



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Kern County 2020 Potato Variety Trial

There are three sub-trials in this project

Southwest Regional Trial

This trial continues the association that the California potato industry has had with Colorado State University and Texas A & M University in the formation of the Southwest Region Trials. Advanced varieties are made available by CSU and TAMU each year for testing in regional trials. These varieties include russets, whites, reds, and specialty types. These varieties are replicated four times to minimize variations and to have an accurate measure of their true potential for yield, quality, and resistance.

The Kern County Potato Variety Selection Trial

The Kern County trial primarily consists of varieties developed by various university and the private breeders from North America. Selections in the replicated trial are replicated four times. Varieties in the replicated trial could be dropped after the first or second year, or go into a final third year of evaluation.

Observational Trial

Potato varieties with little history or data will be first looked at in the observational trial. It will consist of varieties from all breeders to test how they perform under Kern county conditions. Varieties that have proven merit in the observational trial will likely move up to the Kern County replicated trial the following year.



Planted on 02/18/20



Harvested and graded on 06/10/20

Southwest Regional Trial

17 Entries

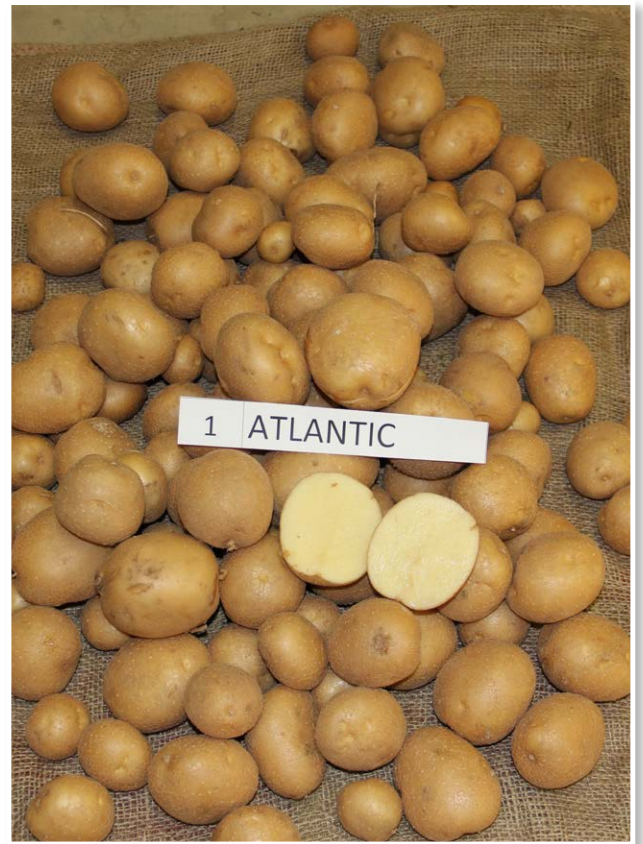
Highest Yield

- AC11467-4 W, 236 cwt

Standards

- Russet Norkotah, 130cwt
- Yukon Gold (Yellow), 143 cwt
- Atlantic (Chipper), 163 cwt

Trial Potato Standards



1. Atlantic, 163 cwt



2. Russet Norkotah, 130 cwt



3. Yukon Gold, 143 cwt



4. AC11453-7 W, 140 cwt



5. AC11467-4 W, 236 cwt



6. AC11494-6W, 43 cwt



7. AFC5726-1 RU, 115 cwt



8. CO12152-1RU, 140 cwt



9. CO12235-3 W, 227cwt



10. CO12246-1RU, 144 cwt



11. CO12293-1W, 212 cwt



12. CO12378-1RU, 146 cwt



13. CO12428-2W, 170 cwt



14. COTX08063-2R, 203 cwt



15. ATTX07042-3W, 193 cwt



16. TX09403-21W, 186 cwt



17. AORTX09037-1W/Y, 155 cwt

Kern County Replicated Trial

7 Entries

Highest Yield

- Electra, 358 cwt

Standards

- Russet Norkotah 130cwt
- Yukon Gold (Yellow) 143 cwt
- Atlantic (Chipper) 163 cwt



18. CO08062-3 PF/P, 118 cwt



19. CO11250-1 W/Y, 158 cwt



20. Double Fun, 190 cwt



21. Nectar 206 cwt



22. Cerata KWS, 199 cwt



23. Primabelle, 208 cwt



24. Electra, 358 cwt

Observational Trial

72 Entries

Four High Yields

- CO13232-25 W, 369 cwt
- Goldeye, 359 cwt
- Almera, 320 cwt
- CO13033-4 W/Y, 307cwt

Standards

- Russet Norkotah, 130cwt
- Yukon Gold (Yellow), 143 cwt
- Atlantic (Chipper), 163 cwt



100. AC12080-4RU, 235 cwt



101. AFC6041-1R, 254 cwt



102. CO13003-1RU, 256 cwt



103. CO13033-4W/Y, 307 cwt



104. CO10085- 1 RU, 172 cwt



105. CO13232-25 W, 369 cwt



106. AC12090-3 RU, 181 cwt



107. CO10064-1 W/Y, 78 cwt



108. CO11009-3 RU, 154 cwt



109. CO11037-5W, 212 cwt



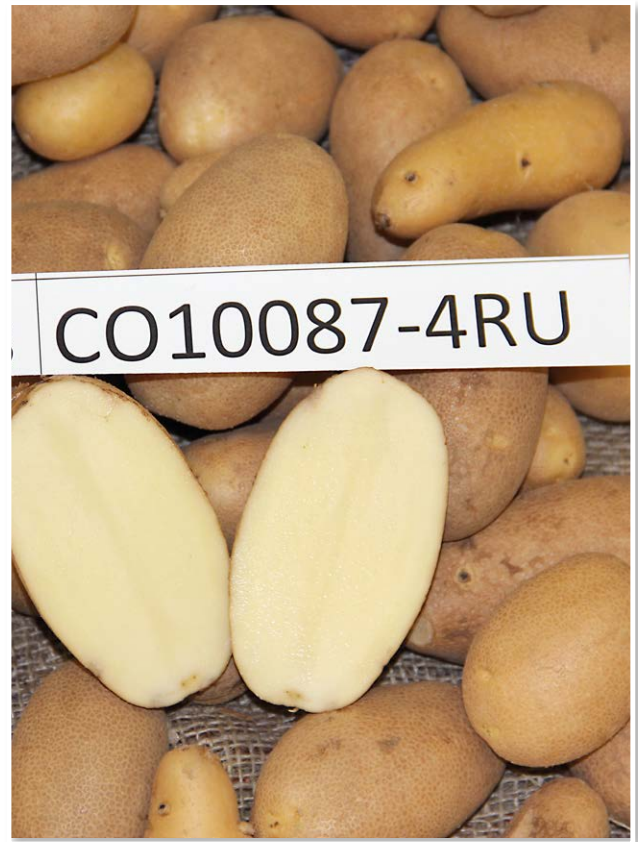
110. CO10091-1RU, 282 cwt



111. CO11266-1 W/Y, 249 cwt



112. CO11023-9 W, 208 cwt



113. CO10087-4 RU, 127 cwt



114. CO10076-4 W, 281 cwt



115. AC10376-1-2012 W/Y, 138 cwt



116. CO10073-7 W, 295 cwt



117. CO10098-5 W/Y, 61cwt



118. CO11023-2 W, 193 cwt



119. AYT2-12, 160 cwt



120. CO13232-11 W, 88 cwt



121. IYT1-16, 143 cwt



122. CO13232-5 W, 169 cwt



123. IYT1-14, 90 cwt



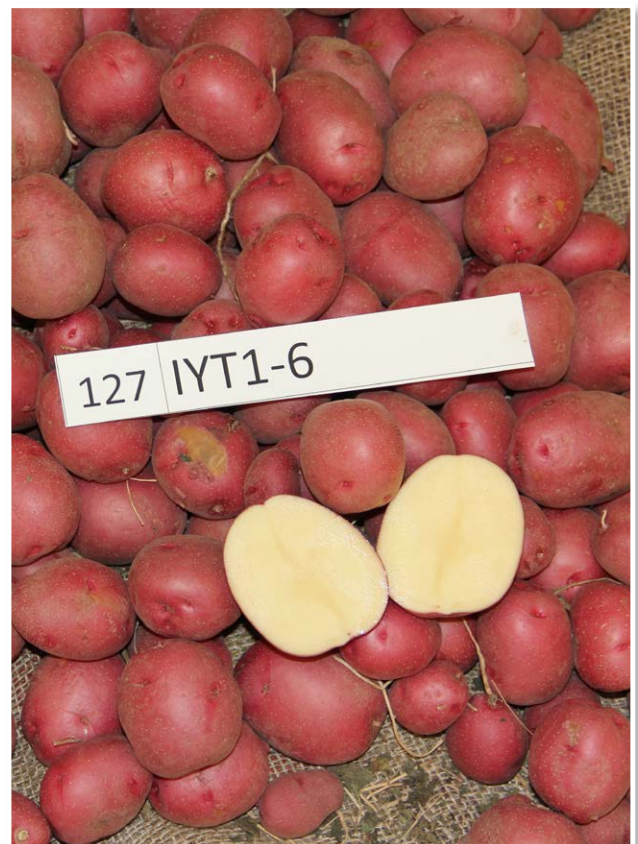
124. Angelina, 104 cwt



125. IYT1-46, 132 cwt



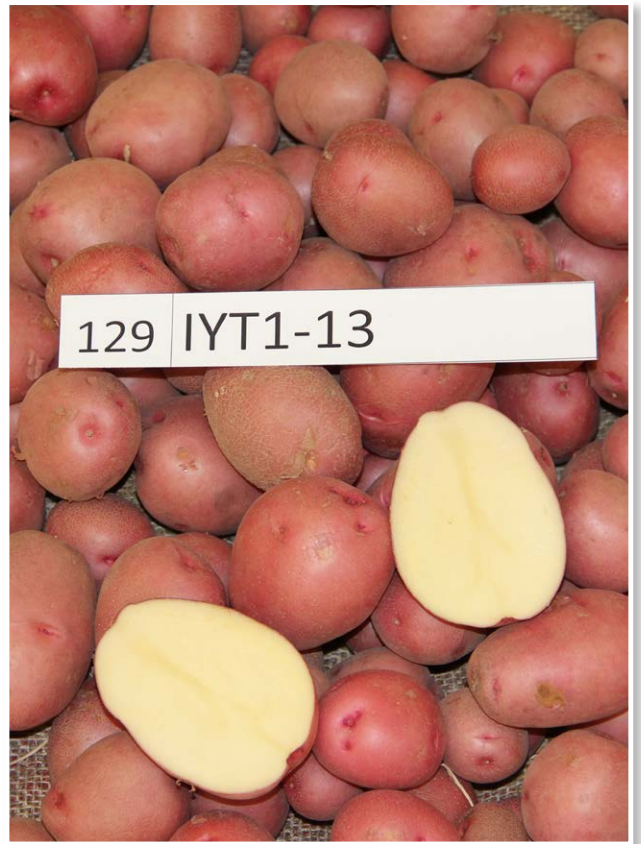
126. Almera, 320 cwt



127. IYT1-6, 176 cwt



128. Malou, 208 cwt



129. IYT1-13, 203 cwt



130. AYT2-20, 141 cwt



131. IYT1-7, 117 cwt



133. IYT1-8, 158 cwt



134. AYT2-18, 156 cwt



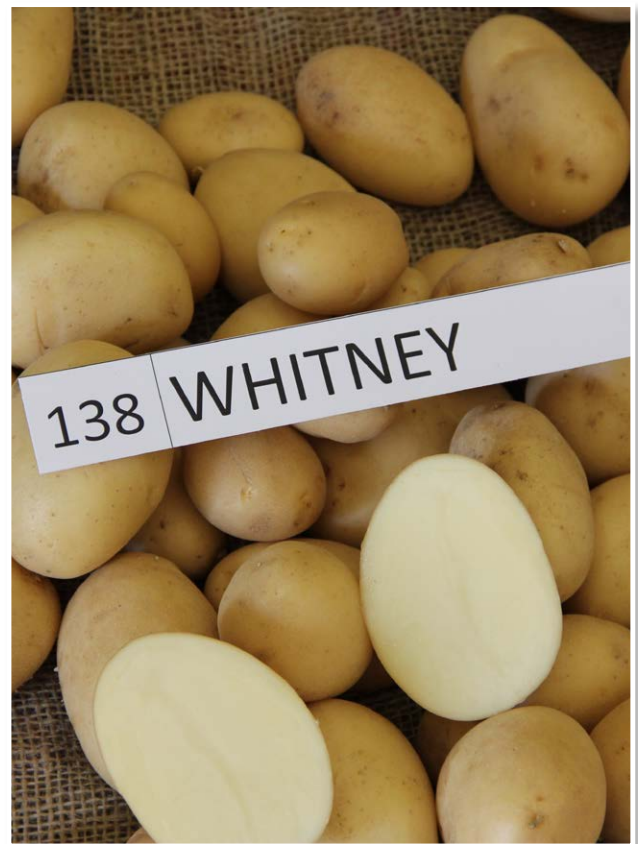
135. IYT1-48, 131 cwt



136. AYT2-1, 219 cwt



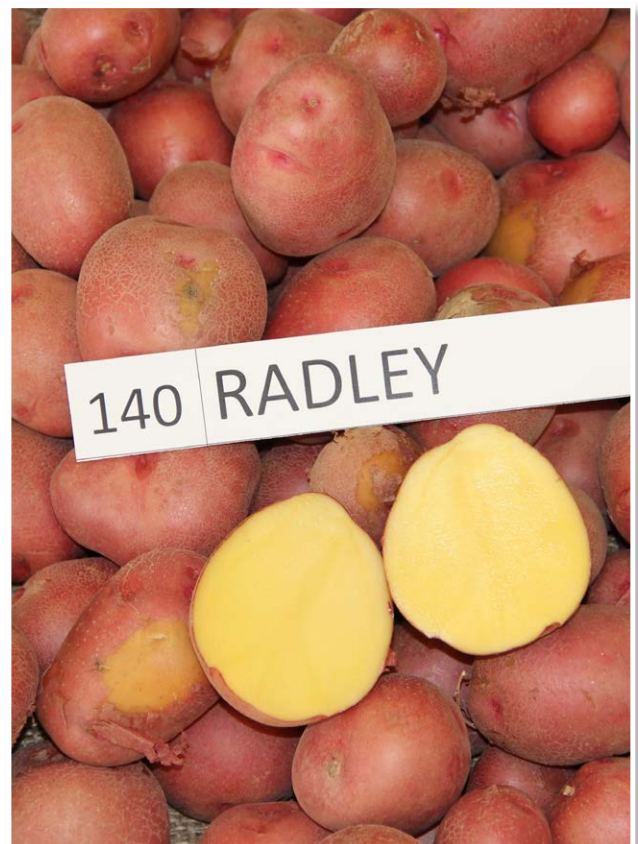
137. Bodega Red, 149 cwt



138. Whitney, 102 cwt



139. Cikamen, 234 cwt



140. Radley, 187 cwt



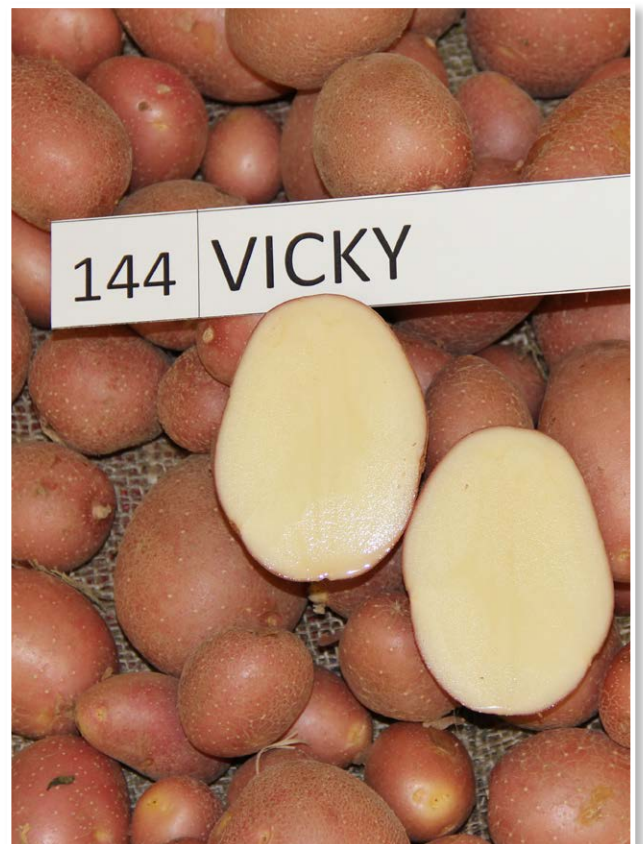
141. Mia, 174 cwt



142. Red Rescal, 152 cwt



143. Paroli, 123 cwt



144. Vicky, 154 cwt



145. Allora, 157 cwt



147. Golden Globe G5, 216 cwt



148. Ar-2015-15, 119 cwt



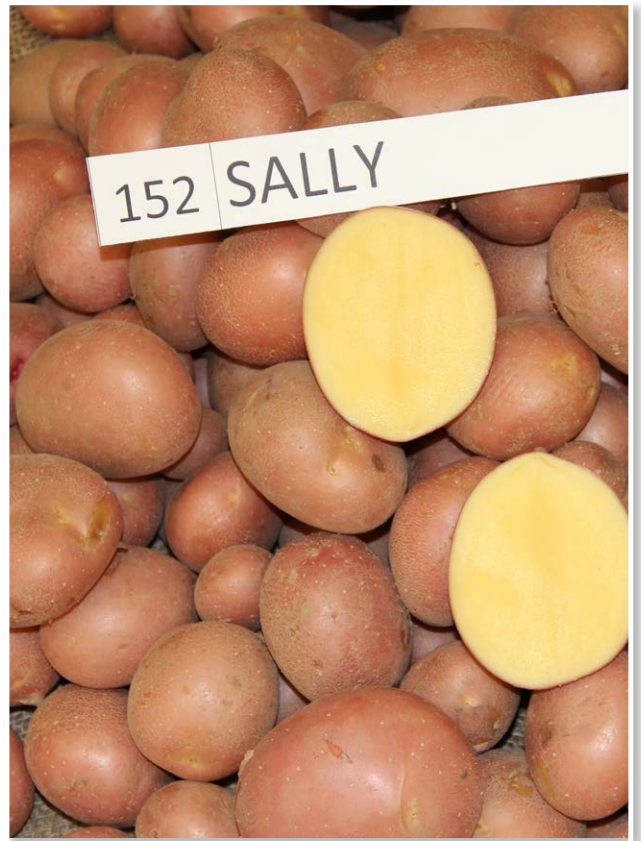
149. Maggie, 181 cwt



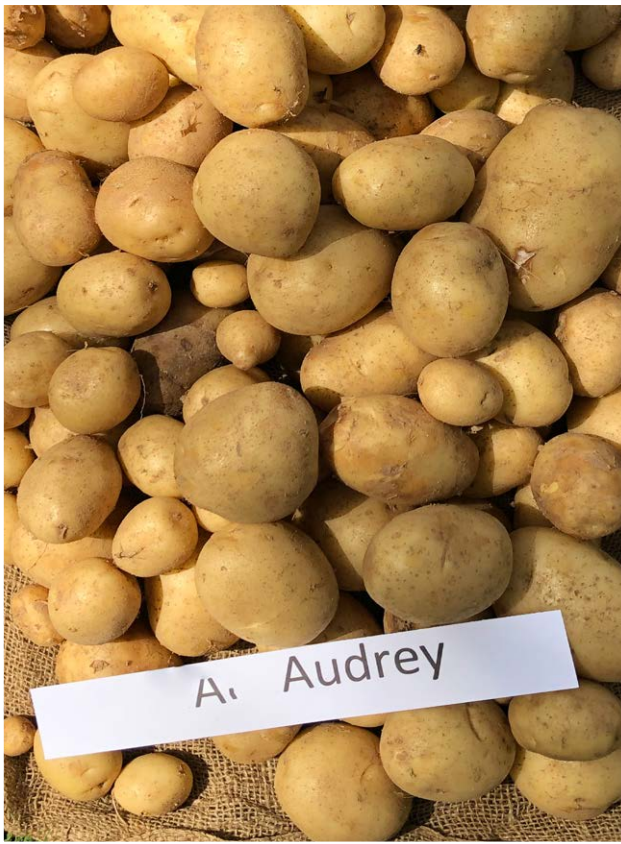
150. Rosi, 227 cwt



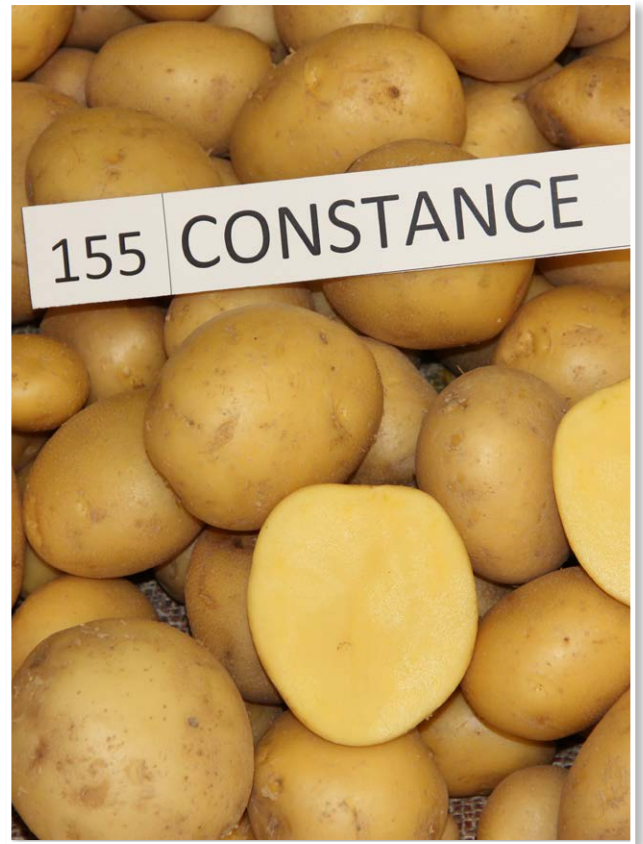
151. HZC 07 1356, 241 cwt



152. Sally, 296 cwt



154. Audrey, 193 cwt



155. Constance, 169 cwt



156. Alegria, 58 cwt



157. Tyson G3, 84 cwt



158. Defender G3, 99 cwt



159. Golden Globe, 144 cwt



160. Fioretta, 236 cwt



161. Bonnata KWS, 211 cwt



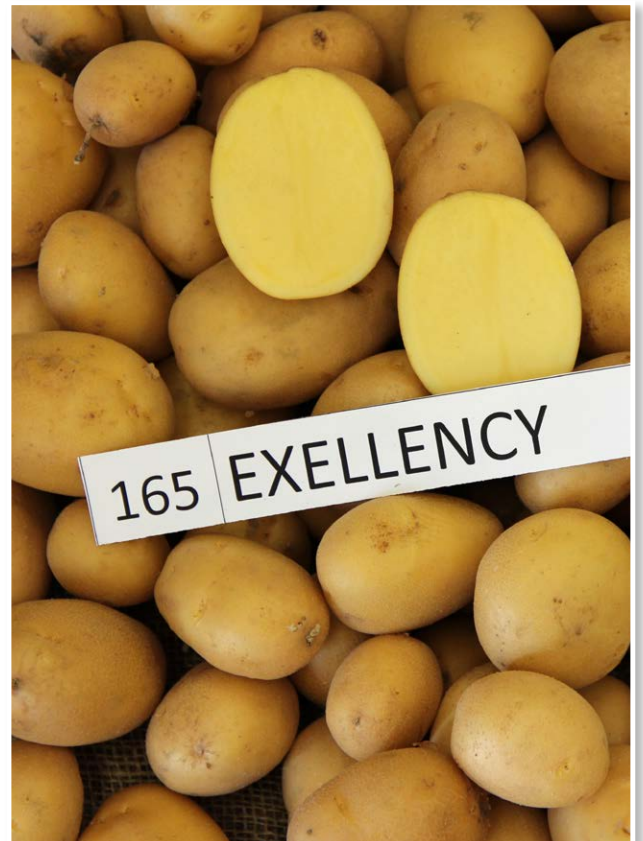
162. Noya, 105 cwt



163. Goldeye, 359 cwt



164. AAC-Hammer, 234 cwt



165. Exellency, 212 cwt



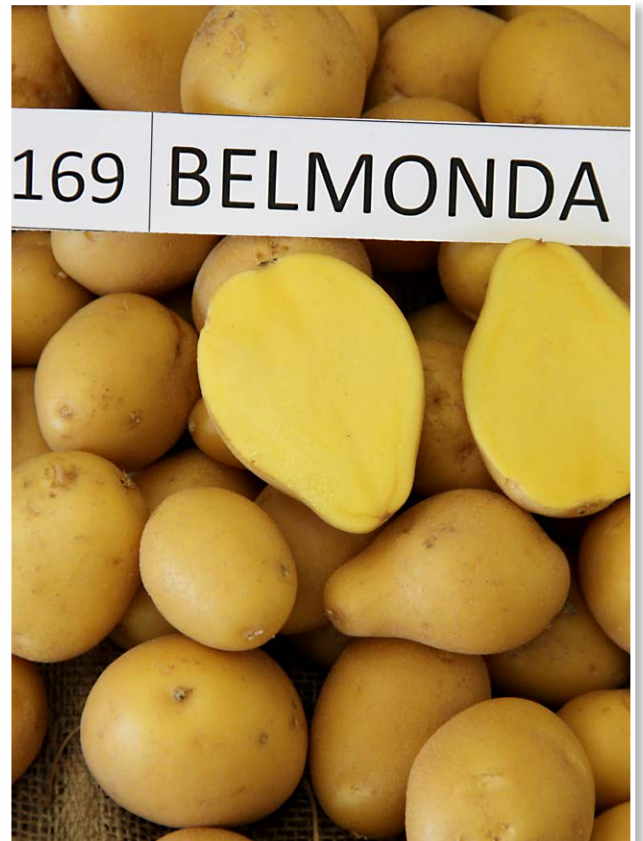
166. Ballerina, 37 cwt



167. Anouk, 84 cwt



168. Natascha, 146 cwt



169. Belmonda, 111 cwt



170. Lilly, 173 cwt



171. Prada, 114 cwt



172. 7 Four 7, 163 cwt

Yield Data

Table 1: Tuber Yield and Size of Southwest Regional Trial Potato Entries

Tuber yield cwt/ A									
ID#	Clone	Type	0-4 oz	4-6 oz	6-10 oz	11 oz >	Culls	Total Yield	Marketable Yield
Russet Trial									
2	Russet Norkotah	Russet	83.5	44.3	2.2	0.0	2.8	132.8 ab	130.1 ed
7	AFC5726-1RU	Russet	63.6	46.2	5.0	0.0	0.2	115.1 b	114.9 e
8	CO12152-1RU	Russet	89.9	44.7	5.6	0.0	0.4	140.7 ab	140.3 cde
10	CO12246-1RU	Russet	57.6	80.9	5.9	0.0	0.0	144.4 ab	144.4 cde
12	CO12378-1RU	Russet	100.7	41.0	4.6	0.0	0.0	146.3 ab	146.3 cde
14	COTX08063-2RU	Russet	58.7	117.9	26.6	0.0	4.1	207.4 ab	203.3 abc
Specialty Trial									
3	Yukon Gold	Yellow	30.4	81.9	31.1	0.0	0.0	143.4 ab	143.4 cde
17	AORTX09037-1W/Y	Specialty/ Yellow	50.3	93.8	10.7	0.0	4.0	158.9 ab	154.9 bcde
Chip Trial									
1	Atlantic	Chipper	34.4	108.7	20.3	0.0	0.8	164.3 ab	163.5 abcde
4	AC11453-7W	Chipper	38.1	95.6	6.5	0.0	2.6	142.7 ab	140.2 cde
5	AC11467-4W	Chipper	33.2	145.7	45.4	11.2	1.5	237.1 ab	235.5 a
6	AC11494-6W	Chipper	71.9	61.7	9.9	0.0	2.0	145.5 ab	143.4 cde
9	CO12235-3W	Chipper	73.9	137.0	16.5	0.0	29.1	256.6 a	227.5 ab
11	CO12293-1W	Chipper	35.3	136.6	29.1	10.5	2.1	213.7 ab	211.5 abc
13	CO12428-2W	Chipper	63.8	101.3	4.7	0.0	0.0	169.8 ab	169.8 abcde
15	ATTX07042-3W	Chipper	92.0	84.7	11.8	4.6	0.6	193.8 ab	193.2 abcd
16	TX09403-21W	Chipper	43.1	118.9	23.7	0.0	0.3	186.0 ab	185.7 abcde

*Mean comparisons were performed using Tukey's-Kramer HSD; means with the same letter within columns are not significantly different

Table 2: Tuber Yield and Size of Kern County Variety Trial Potato Entries

Tuber yield cwt/ A									
ID#	Clone	Type	0-4 oz	4-6 oz	6-10 oz	11 oz >	Culls	Total Yield	Marketable Yield
18	CO08062-3PF/P	Specialty, Fingerling	84.9	30.3	2.5	0.0	0.4	118.1 b	117.7 b
19	CO11250-1W/Y	Specialty/ Yellow	84.0	65.1	8.6	0.0	1.9	159.7 b	157.7 b
20	Double Fun		43.7	115.3	27.6	3.7	1.2	191.4 b	190.2 b
21	Nectar		58.5	109.1	38.2	0.0	3.2	209.0 b	205.8 b
22	Cerata KWS		45.8	119.3	25.6	8.7	1.5	201.0 b	199.5 b
23	Primabelle		60.5	111.9	32.6	2.7	3.3	210.8 b	207.6 b
24	Electra		68.5	229.8	50.0	9.4	0.3	358.0a	357.7 a

*Mean comparisons were performed using Tukey's-Kramer HSD; means with the same letter within columns are not significantly different

Table 3: Tuber Yield and Size of Observational Trial Potato Entries

Tuber yield cwt/ A									
ID#	Clone	Type	0-4 oz	4-6 oz	6-10 oz	11 oz >	Culls	Total Yield	Marketable Yield
100	AC12080-4RU	Russet	74.32	122.51	38.39	0.00	0.00	235.22	235.22
101	AFC6041-1R	Red	123.33	123.33	7.35	0.00	0.00	254.01	254.01
102	CO13003-1RU	Russet	60.03	186.63	9.80	0.00	0.00	256.46	256.46
103	CO13033-4W/Y	Yellow	162.13	133.13	11.84	0.00	1.63	308.73	307.10
104	CO10085-1RU	Russet	46.96	114.35	11.03	0.00	1.23	173.56	172.33
105	CO13232-25W	Chipper	28.18	298.11	42.47	0.00	1.63	370.40	368.76
106	AC12090-3RU	Russet	24.91	94.33	37.57	24.50	2.04	183.36	181.32
107	CO10064-1W/Y	Specialty/ Yellow	55.95	22.05	0.00	0.00	0.00	78.00	78.00
108	CO11009-3RU	Russet	28.59	84.94	30.22	10.21	0.00	153.96	153.96
109	CO11037-5W	Chipper	82.49	114.75	14.70	0.00	1.23	213.17	211.95
110	CO10091-1RU	Russet	84.53	173.15	24.09	0.00	0.00	281.78	281.78
111	CO11266-1W/Y	Specialty/ Yellow	164.58	80.04	4.49	0.00	0.00	249.11	249.11
112	CO11023-9W	Chipper	47.37	148.24	12.66	0.00	0.00	208.27	208.27
113	CO10087-4RU	Russet	42.06	85.35	0.00	0.00	0.00	127.41	127.41
114	CO10076-4W	Chipper	29.81	245.03	5.72	0.00	0.00	280.55	280.55
115	AC10376-1-2012W/Y	Specialty/ Yellow	111.49	26.95	0.00	0.00	0.00	138.44	138.44
116	CO10073-7W	Chipper	86.17	197.25	11.84	0.00	0.82	296.07	295.26
117	CO10098-5W/Y	Specialty/ Yellow	57.58	3.27	0.00	0.00	0.00	60.85	60.85
118	CO11023-2W	Chipper	26.54	166.21	0.00	0.00	4.90	197.65	192.75
119	AYT2-12		108.22	52.27	0.00	0.00	5.31	165.80	160.49

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Table 3: Tuber Yield and Size of Observational Trial Potato Entries, continued

Tuber yield cwt/ A									
ID#	Clone	Type	0-4 oz	4-6 oz	6-10 oz	11 oz >	Culls	Total Yield	Marketable Yield
120	CO13232-11W	Chipper	50.23	37.57	0.00	0.00	3.68	91.48	87.80
121	IYT1-16		120.06	23.28	0.00	0.00	0.00	143.34	143.34
122	CO13232-5W	Chipper	72.28	96.79	0.00	0.00	6.94	176.01	169.07
123	IYT1-14		84.53	5.72	0.00	0.00	0.00	90.25	90.25
124	Angelina		95.15	8.58	0.00	0.00	0.41	104.14	103.73
125	IYT1-46		117.20	14.70	0.00	0.00	0.41	132.31	131.91
126	Almera		39.20	112.30	116.80	51.46	0.00	319.76	319.76
127	IYT1-6		98.83	77.18	0.00	0.00	0.00	176.01	176.01
128	Malou		100.87	103.32	3.68	0.00	8.17	216.03	207.86
129	IYT1-13		117.20	86.17	0.00	0.00	0.00	203.37	203.37
130	AYT2-20		85.35	46.55	8.98	0.00	2.04	142.93	140.89
131	IYT1-7		89.03	28.18	0.00	0.00	0.00	117.20	117.20
133	IYT1-8		96.79	54.72	6.13	0.00	0.41	158.04	157.63
134	AYT2-18		122.10	33.90	0.00	0.00	0.00	156.00	156.00
135	IYT1-48		98.83	14.70	4.90	12.25	0.00	130.68	130.68
136	AYT2-1		117.20	102.09	0.00	0.00	0.00	219.30	219.30
137	Bodega Red		13.88	71.06	13.48	50.64	15.93	164.98	149.06
138	Whitney		35.12	62.48	4.49	0.00	0.00	102.09	102.09
139	Cikamen		106.59	94.74	33.08	0.00	6.94	241.35	234.41
140	Radley		55.54	117.61	13.88	0.00	0.00	187.04	187.04
141	Mia		47.37	114.35	11.84	0.00	1.63	175.19	173.56
142	Red Rescal		24.91	86.58	20.83	20.01	12.66	164.98	152.32
143	Paroli		38.80	69.02	15.52	0.00	1.63	124.96	123.33
144	Vicky		70.24	76.37	7.76	0.00	1.23	155.59	154.37
145	Allora		87.80	57.17	12.25	0.00	1.63	158.86	157.22
146	Rosemarie		110.67	91.07	8.98	0.00	2.04	212.76	210.72
147	Golden Globe G5		98.42	112.71	4.49	0.00	0.00	215.62	215.62
148	Ar-2015-15		37.98	67.38	13.48	0.00	6.94	125.78	118.84
149	Maggie		59.62	120.88	0.00	0.00	1.23	181.73	180.50
150	Rosi		60.85	112.30	43.29	11.03	0.00	227.47	227.47
151	HZC 07 1356		24.09	147.42	53.09	16.34	2.86	243.80	240.94
152	Sally		62.89	215.21	17.61	0.00	0.00	295.71	295.71
154	Audrey		24.91	89.03	78.82	0.00	0.00	192.75	192.75
155	Constance		37.16	118.02	13.48	0.00	0.00	168.66	168.66
156	Alegria		51.05	7.35	0.00	0.00	0.00	58.40	58.40
157	Tyson G3		33.08	25.32	25.32	0.00	0.82	84.53	83.72
158	Defender G3		54.31	34.30	10.62	0.00	6.53	105.77	99.24
159	Golden Globe		93.11	51.05	0.00	0.00	0.00	144.16	144.16

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Table 3: Tuber Yield and Size of Observational Trial Potato Entries, continued

Tuber yield cwt/ A									
ID#	Clone	Type	0-4 oz	4-6 oz	6-10 oz	11 oz >	Culls	Total Yield	Marketable Yield
160	Fioretta		84.53	131.50	19.60	0.00	0.00	235.63	235.63
161	Bonnata KWS		54.31	120.88	35.94	0.00	1.63	212.76	211.13
162	Noya		79.63	24.91	0.00	0.00	0.00	104.54	104.54
163	Goldeye		27.77	260.54	71.06	0.00	8.17	367.54	359.37
164	AAC-Hammer		84.94	134.36	14.70	0.00	0.00	234.00	234.00
165	Exellency		82.49	114.75	14.70	0.00	1.23	213.17	211.95
166	Ballerina		17.15	19.60	0.00	0.00	0.00	36.75	36.75
167	Anouk		35.53	48.60	0.00	0.00	0.00	84.13	84.13
168	Natascha		100.05	45.74	0.00	0.00	9.80	155.59	145.79
169	Belmonda		75.55	35.53	0.00	0.00	0.00	111.08	111.08
170	Lilly		77.59	95.15	0.00	0.00	0.00	172.74	172.74
171	Prada		26.14	47.78	24.91	14.70	0.00	113.53	113.53
172	7 Four 7		60.44	84.13	18.79	0.00	2.86	166.21	163.35



Acknowledgements

Many talented and dedicated people assisted in these trials during the season. The variety evaluation team is thankful to Jed Dubose, Jennifer Fernberg and Cristal Hernandez for their hard work.

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The team also owe profound thanks to Joe Nunez for his informative suggestions and sustained encouragement.

The team is indebted to David Holmes, Maria Isabel Vales, Rob Wilson, Douglas Scheuring, and Jeffrey Koym for their guidance and collaboration on this trial.

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- USDA NIFA (Potato Breeding Research, award no.: 2019-34141-30433)
- Potatoes USA

For more information

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